

REMARKS

Claims 1-32 are pending. Claims 1-30 are rejected under 35 U.S.C. 103(a). By this amendment claims 1, 3, 6, 14, 22, 23 and 28-30 are amended, and new claims 31 and 32 are added. No new matter is introduced through the addition of claims 31 and 32. Reconsideration in view of the above amendments and following remarks is respectfully requested.

Rejection Under 35 U.S.C. 5 103(a)

Claims 1-13, 23-27 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over the published article "Bistatic Laptop Radar," Robert F. Ogrodnik, IEEE 1996 National Radar Convention, Ann Arbor, Michigan, May 13-16, 1996, 369-73 (hereinafter "Ogrodnik") in view of U.S. Patent No. 5,252,980 to Gray et al. (hereinafter "Gray et al.").

To establish a prima facie case of obviousness under 35 U.S.C. 103, three criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the references or to combine the reference teachings. Second, there must be some expectation of success. Third, the prior art references must disclose or suggest all of the claimed features. MPEP 2143.

In an advisory action dated December 31, 2003, the Examiner stated that the claims do not specifically set forth structure identifying physically separate submodules and that Gray et al. would have inherently involved some form of storage or buffering of digital transmission replicas between such submodules.

Ogrodnik disclosed coherent noncooperative bistatics technology that utilized broadband signals to conduct integrated surveillance and target imaging. Gray et al. disclosed a tristatic radar tracking system including a converter, a processor to estimate Doppler shift, and a data

processor to compute location and trajectory. Neither Ogrodnik nor Gray et al., alone or in combination, disclose a passive coherent location system using physically separate submodules that buffer digitized transmission replicas to track a plurality of approaching airborne objects.

Specifically, Ogrodnik and Gray et al. do not disclose “a front-end processing subsystem... and back-end processing subsystem to receive the digitized transmission replicas of the received transmissions and to determine object state estimates based on the determined radial velocity, wherein said front-end processing subsystem and said back-end processing subsystem are remotely located relative to one another,” as recited in claims 1 and 6. Nor do the cited references disclose a method including “using a front-end processing system, comparing said scattered transmission to said reference transmission to determine measurement differentials” and “buffering digitized transmission replicas of said scattered transmissions and said reference transmissions wherein said digitized transmission replicas are received by a back-end processing subsystem remotely located relative to said front-end processing system,” as recited in claim 23. Further, the cited references do not disclose “means for comparing said scattered transmission to said reference transmission within a front-end processing subsystem to determine measurement differentials” and “means for buffering digitized transmission replicas of said scattered transmissions and said reference transmissions, wherein said digitized transmission replicas are received by a back-end processing subsystem remotely located relative to said front-end processing system and wherein said buffered digitized transmission replicas can be transmitted for analysis upon request by a user,” as recited in claim 30.

Thus the combination of Ogrodnik and Gray et al. fails to provide the features recited in claims 1, 6, 23 or 30. In addition, there is no motivation in Ogrodnik or Gray et al. to modify their teachings to arrive at the features recited in claims 1, 6, 23 or 30. Particularly, Ogrodnik

arguably teaches away from the concepts of the present invention by describing, “porting all software and signal processing algorithms associated with the technology into a laptop personal computer” (Ogrodnik, p. 371). In the present invention, physically separate submodules provide increased modularity to enable specialized processing hardware and software to be implemented for the discrete tasks performed by each of these modules. (See p. 10.) Therefore, Ogrodnik and Gray et al do not disclose or suggest all the claimed features. Applicants maintain that a prima facie case of obviousness is not established with regard to claims 1,6,23 and 30.

In light of the foregoing, Applicant respectfully submits that claims 1, 6, 23 and 30 are not rendered obvious by Ogrodnik in view of Gray et al. Claims 2-5 depend from independent claim 1, claims 7-13 depend from claim 6, and claims 24-27 depend from claim 23. If an independent claim is nonobvious, then any claim depending from the independent claim is nonobvious. MPEP 2143.03. Thus, it is respectfully submitted that dependent claims 2-5, 7-13 and 24-27 are distinguishable over the applied reference for at least the reasons described above. Therefore, withdrawal of the rejection of claims 1-13,23-27 and 30 is respectfully requested.

To further distinguish the present invention from the cited references, dependent claim 3 has also been amended to include the feature that initial position information of an airborne object may be communicated to a system of the present invention separately from scattered transmissions received by the system. Applicant submits that neither Ogrodnik nor Gray et al. disclose or suggest the feature of claim 3. This amendment is supported in the specification at, e.g., page 4.

Claims 14-22, 28 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ogrodnik in view of Gray et al. and further in view of U S . Patent No. 4,063,073 to Strayer (hereinafter “Strayer”).

As discussed above, the present invention comprises physically separate submodules that are not disclosed or suggested by Ogrodnik or Gray et al. Strayer also fails to disclose or suggest this feature by discussing a system to prevent collision between moving aircraft. Independent claims 14, 22, 28, and 29 now include explicit reference to include physically separate submodules as supported by the specification. For example claim 14 recites, in part, “using a front-end processing system, comparing the received transmissions to determine a measurement differential” and “buffering digitized transmission replicas of said received transmissions, wherein said digitized replicas are received by a back-end processing subsystem remotely located relative to said front-end processing system.” Claims 22, 28 and 29 include recite similar features.

In light of the foregoing, Applicant respectfully submits that claims 14, 22, 28 and 29 are not rendered obvious by Ogrodnik in view of Gray et al. and Strayer. Claims 15-21 depend from independent claim 14. If an independent claim is nonobvious, then any claim depending from the independent claim is nonobvious. MPEP 2143.03. Thus, it is respectfully submitted that dependent claims 15-21 are distinguishable over the applied reference for at least the reasons described above. Therefore, withdrawal of the rejection of claims 14-22,28 and 29 is respectfully requested.

CONCLUSION

In view of the foregoing, Applicant submits that this application is in condition for allowance, and such disposition is earnestly solicited. If the Examiner believes that the prosecution of this case might be advanced by discussing the application with Applicant representative, in person, or over the telephone, we would welcome the opportunity to do so.

EXCEPT for fees payable under 37 CFR §1.18, the Commissioner is hereby authorized

by this paper to charge any additional fees during the entire pendency of this application, including fees due under 37 CFR §1.16 and 1.17 which may be required, including any required extension of time fees, or credit, any overpayment to deposit account No. 50-1419. This paragraph is intended to be a constructive petition for extension of time in accordance with 37 CFR §1.136(a)(3).

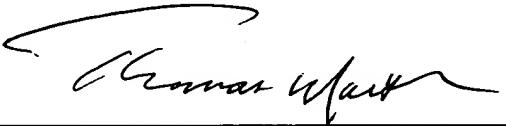
If there are any fees due in connection with the entry of this response, please charge the fees to our Deposit Account No. 50-1419

Based upon the foregoing, Applicant believes that all pending claims are in condition for allowance and such disposition is respectfully requested. In the event that a telephone conversation would further prosecution and/or expedite allowance, the Examiner is invited to contact the undersigned.

Respectfully submitted,

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